

ABSTRACT

A discharge lamp lighting apparatus includes: a DC power supply 101 for supplying power to a HID lamp 111; a transformer for transmitting a voltage of DC power supply 101 to the HID lamp 111; a switch 102 connected between the DC power supply 101 and a primary winding of the transformer 105; switches 103, 104 connected to a primary side of the transformer 105; an inductance 106 connected in series to a secondary winding of the transformer 105; a series resonance circuit connected to a secondary side of the transformer 105 and including an inductance 108 and a capacitor 110; and a parallel resonance circuit connected to the secondary side of the transformer 105 and including an inductance 107 and a capacitor 109. The switches 102, 103, and 104 are opened or closed to intermittently supply power from the DC power source 101 to the transformer 105 to always supply a current to the transformer 105.